

Extron Electronics

INTERFACING, SWITCHING AND DISTRIBUTION



SVS 100 - SEAMLESS VIDEO SWITCHER

Genlock-free
seamless switching

Accepts up to four
NTSC or PAL video
inputs

Composite and
S-video inputs
and outputs

Color, tint, brightness,
and contrast controls
for each source

24 digital
switching effects

Top & bottom
vertical blanking
controls

128 picture control
user preset memories

Built-in stereo
audio switcher

RS-232/422 control



APPLICATIONS

Extron's **SVS 100** is a four input, one output, video switcher that improves presentation quality by providing seamless vertical interval switching without the need to genlock the sources. Applications such as videoconferencing, distance learning, video editing, and staging benefit from the cost-effective SVS 100, which makes glitch-free switches without using expensive genlocking equipment. By eliminating loss of sync during switching and by color matching inputs, the SVS 100 enhances the professional look of your presentations. Without color correction, the appearance of specific colors can differ dramatically from source to source. Individual settings required by each input source are also saved for consistent color, tint, brightness, and contrast levels, ensuring that colors match between multiple sources. Video images are routed from sources such as VCRs, DVD players, scan converted PCs, laserdisc players, videoconferencing CODECs, or document cameras. For routing audio associated with any video input, the SVS 100 features a four input, one output stereo audio switcher with audio attenuation/gain.

The SVS 100 is compatible with NTSC or PAL signals and offers composite and S-video inputs. Each input also offers a loop-out for a local monitor. Three outputs are available simultaneously as two composite video outputs and one S-video output. For switching between inputs, the SVS 100 provides a seamless "cut" and a variety of "wipe," "dissolve," and "fade" effects. The 24 digital transition effects include left to right, right to left, top to bottom, and so forth. Each effect has a user-adjustable duration ranging up to five seconds.

Color, tint, contrast, and brightness controls are provided per input for color correction of each source signal. The SVS 100 provides up to 128 user preset memories, which saves color adjustment settings for use with matrix switchers. Extron's easy-to-use Simple Instruction Set (SIS™) is provided to call up any preset via RS-232 control. Unlike typical strings of lengthy, tedious RS-232 programming code, SIS commands are convenient and easy to enter. The use of the SVS 100's presets ensures consistent color, tint, brightness, and contrast levels across all sources.

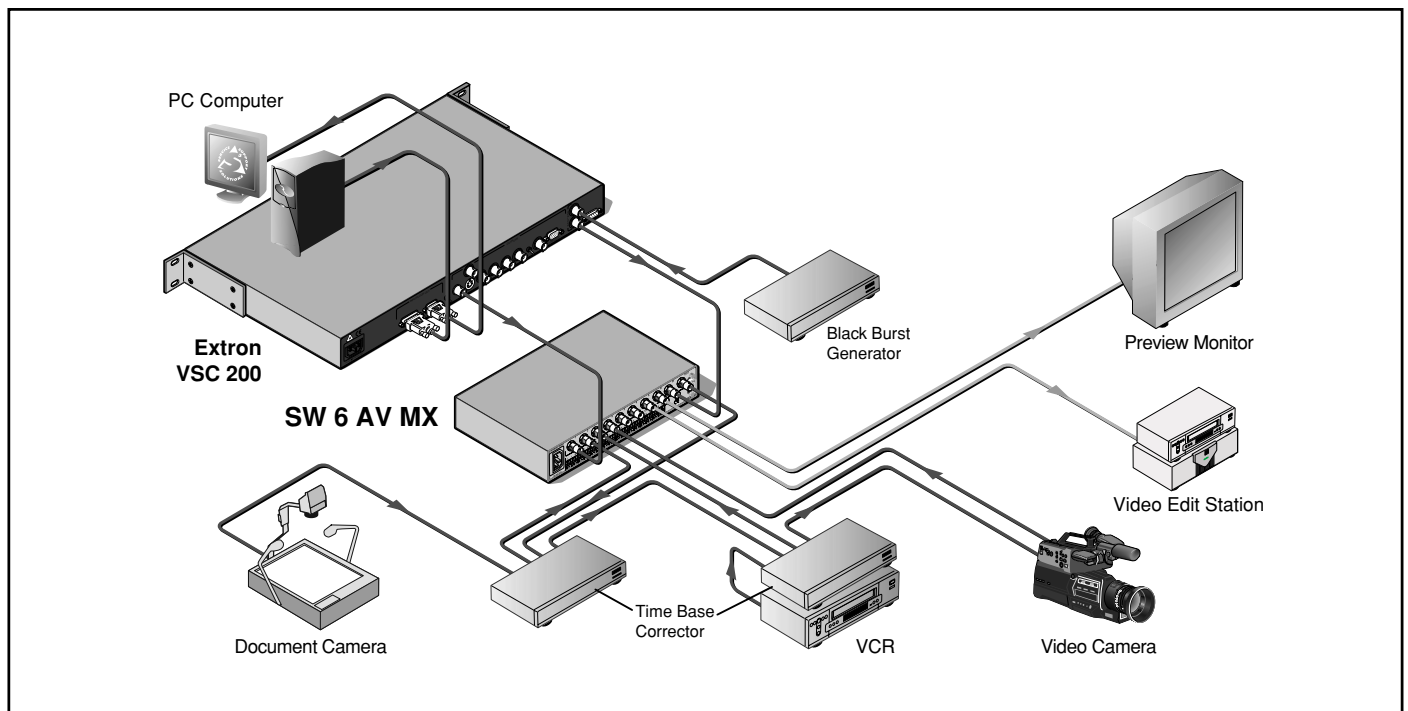
For system integration, the SVS 100 may be controlled through RS-232 control via Extron's Windows®-based control program or third-party control. Extron's Simple Instruction Set™ is available for calling up presets as well as all other functions of the SVS 100. RS-422 control is also available.

FEATURES

- **Inputs** – Accepts up to four NTSC or PAL video inputs. Two inputs can be composite video or S-video, and two inputs are composite video only. Each input also offers a loop-out for a preview monitor.
- **Outputs** – Three outputs provided simultaneously: two composite video outputs on BNCs and one S-video output on a 4-pin mini-DIN connector.
- **Seamless switching** – A seamless "cut" reduces the amount of noise caused by switching glitches. This noise reduction reduces the load on a videoconference encoder, resulting in better, transmitted video quality.
- **Digital effects** – "Wipe," "dissolve," and "fade" effects are provided to enhance the professional look of presentations. "Wipe" effects may be hard "wipes" with clearly defined edges or soft "wipes" with indistinct edges. 24 types of transitions are available: left to right, right to left, top to bottom, and so forth. Each effect provides a user-adjustable duration ranging up to five seconds.
- **Picture controls** – For color correction, the SVS 100 allows a user to adjust the color, tint, brightness, and contrast of each video input.
- **Blanking controls** – Extron's exclusive variable vertical blanking adjustments allow a user to mask noise that occasionally appears at the top and bottom of a processed image or to crop unneeded portions of an image.
- **Audio switching** – Features an internal, 4x1, balanced or unbalanced stereo audio switcher on 3.5 mm conductor terminals for selecting the desired audio of any video input. Audio gain/attenuation is available.
- **User presets** – Provides 128 user presets for saving color adjustment settings per video input. Using presets, the SVS 100 ensures consistent color, tint, brightness, and contrast levels across all sources.
- **Genlock** – Features the ability to genlock to an external black burst signal for use in broadcast or live environments that require genlock.
- **RS-232/422 remote control** – Extron's Simple Instruction Set™ is provided for RS-232 control via third-party control or Extron's Windows®-based control program. RS-422 control is also available.
- **Executive mode** – Locks out picture controls, audio controls, and genlock; all other functions remain active through RS-232/422.
- **Power supply** – Includes a worldwide, 100-240VAC, 50/60 Hz, auto-switchable internal power supply.
- **Rack-mountable** – Housed in a 1U, one rack width, metal enclosure.

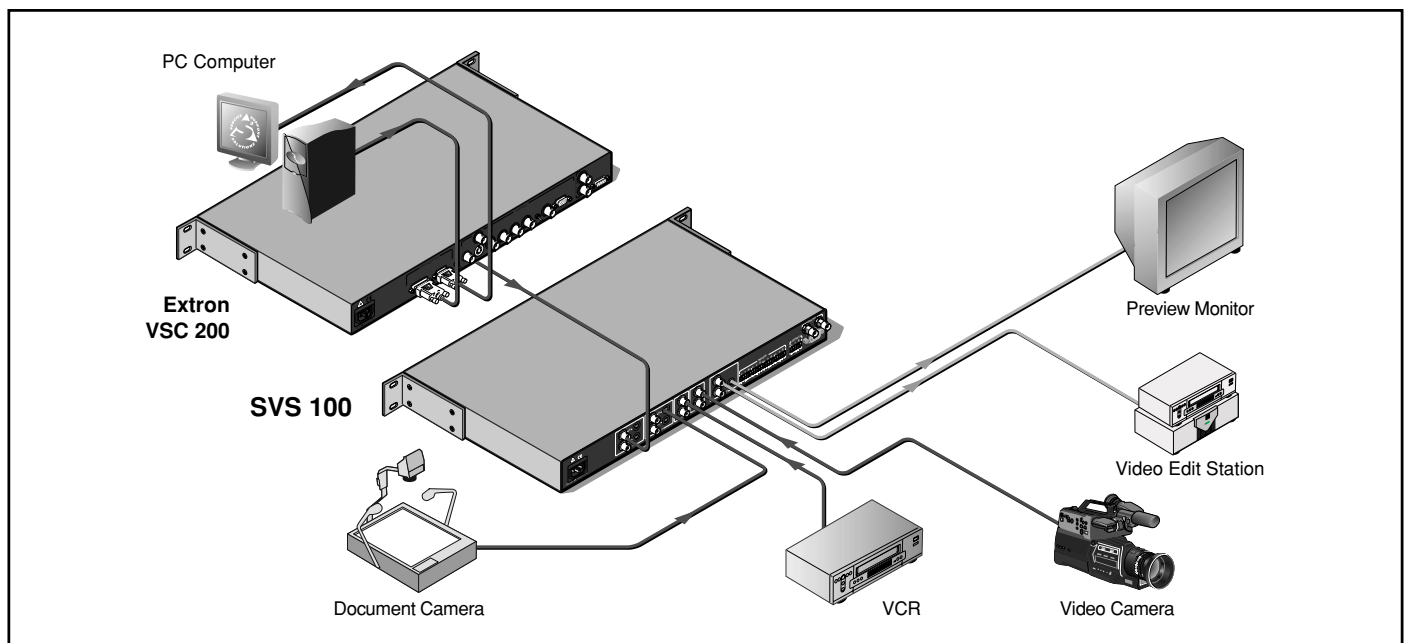
Typical Genlock Application Without the SVS 100

This application diagram depicts a typical application with the necessary genlocking equipment to provide a seamless switch. Sources include a video camera, document camera, scan converted PC, and VCR. Each source signal and the SW 6 AV MX switcher are genlocked using multiple time base correctors (TBCs) and a black burst generator. The SW 6 AV MX then routes the selected signal to the output.



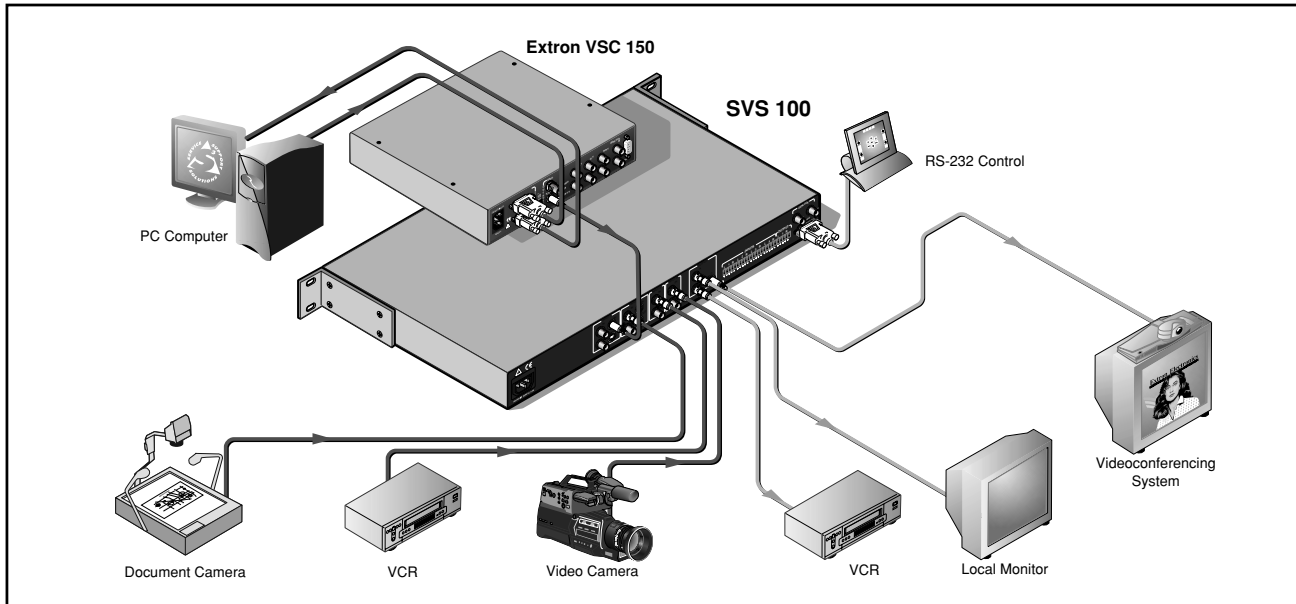
Genlock Application Using the SVS 100

This application diagram depicts the same application as above using the SVS 100, eliminating the switcher and expensive genlocking equipment, including the TBCs and black burst generator. The SVS 100 genlocks all source signals and then routes the selected signal to the output, providing a seamless cut or one of 24 digital switching effects.



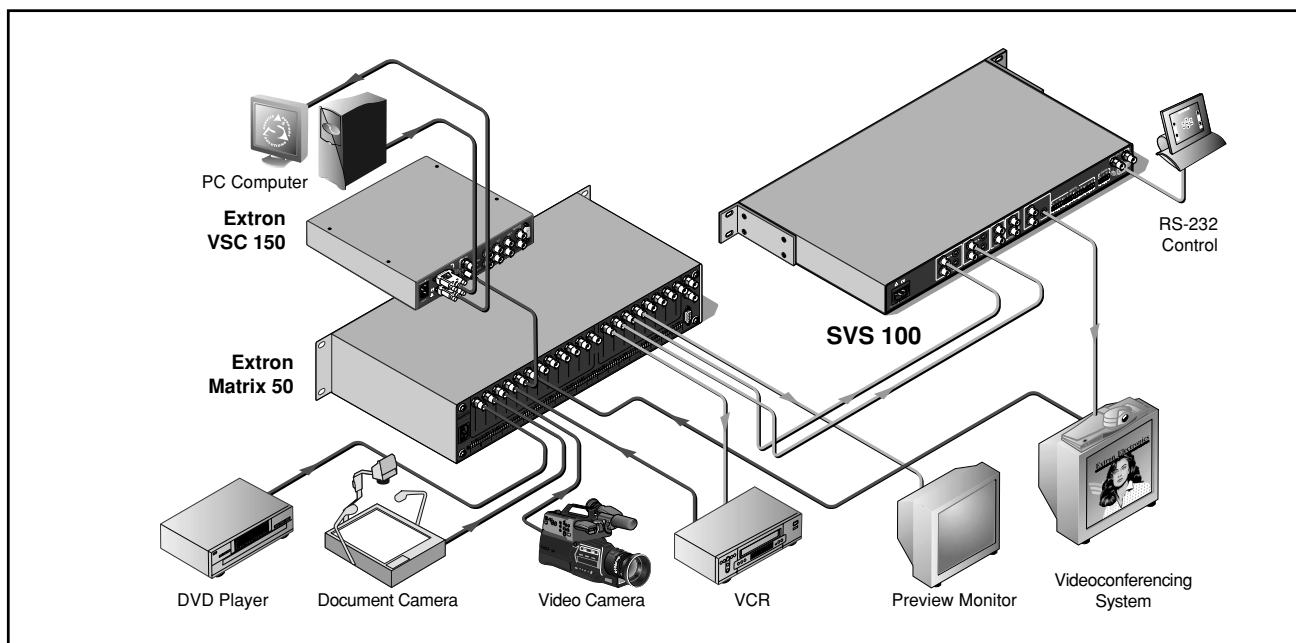
Videoconferencing Application Using Four Sources

For videoconferencing applications with up to four sources, the SVS 100 may be used to save color correction presets for all inputs. The SVS 100's seamless switching capability helps avoid dropped calls that can result from loss of sync with some videoconferencing systems. In the application diagram below, the SVS 100 switches a video camera, scan converted PC, document camera, or VCR to its composite video and S-video outputs for the projector, videoconferencing CODEC, and recording VCR.



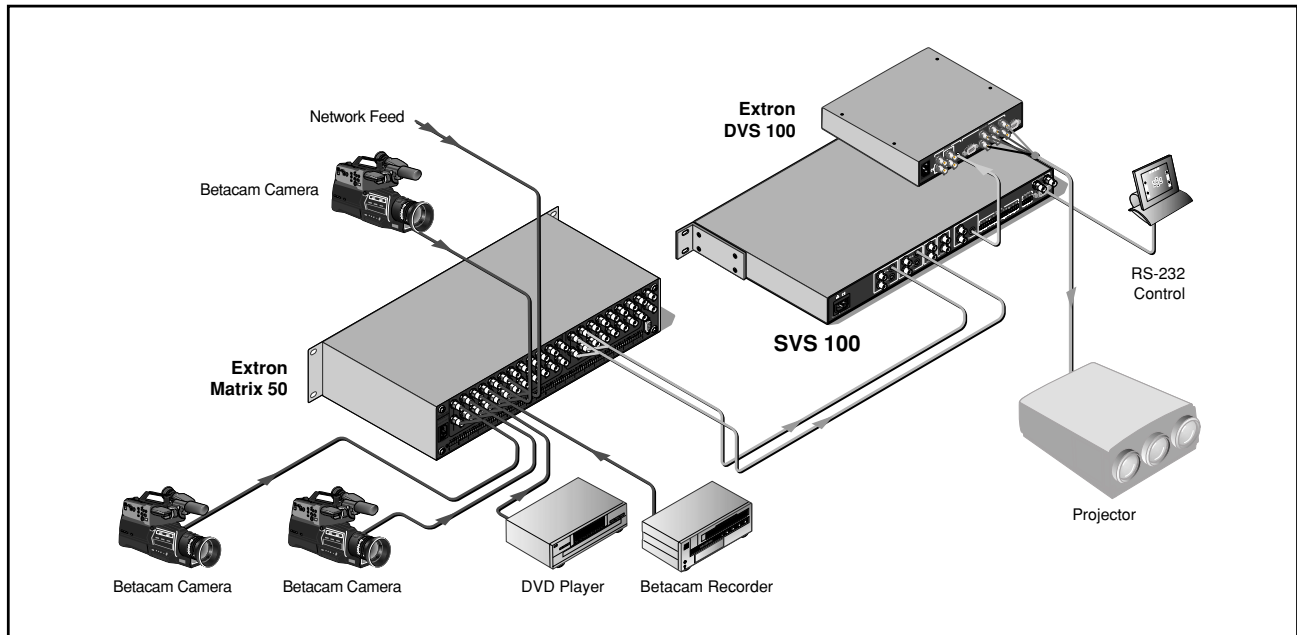
Videoconferencing Application Using a Matrix Switcher and Multiple Sources

For videoconferencing applications using multiple sources via a matrix switcher, the SVS 100 may be used to save color correction presets for up to 128 matrix switcher inputs. When each matrix switcher input is switched to the SVS 100, its preset may be recalled via RS-232 control prior to the SVS 100's switch, ensuring consistent color, tint, brightness, and contrast levels across all sources. In the application diagram below, Extron's Matrix 50 matrix switcher routes a video camera, document camera, scan converted PC, and DVD player to two composite video inputs on the SVS 100. The SVS 100 switches its inputs to the S-video output for the videoconferencing CODEC.

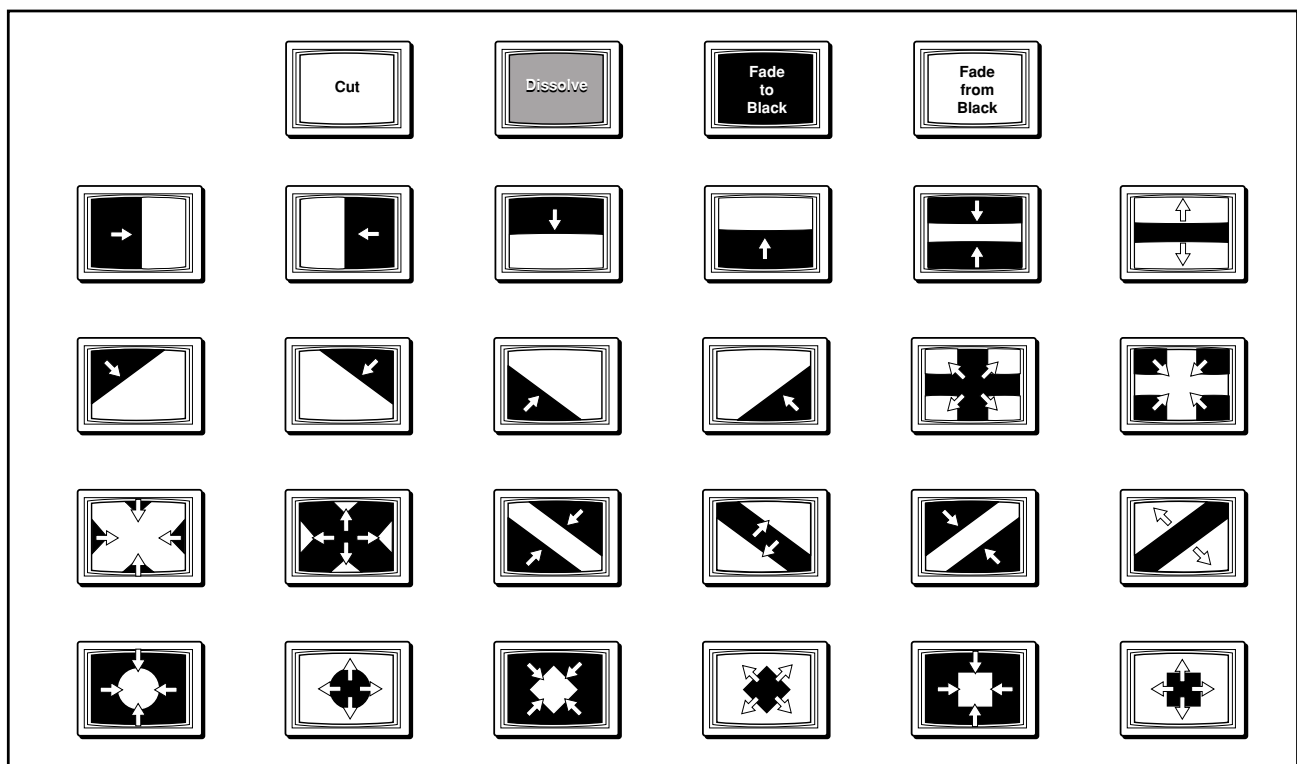


Staging Application

For staging applications using multiple sources via a matrix switcher, the SVS 100 may be used to save color correction presets for up to 128 matrix switcher inputs. When each matrix switcher input is switched to the SVS 100, its preset may be recalled via RS-232 control prior to the SVS 100's switch, ensuring consistent color, tint, brightness, and contrast levels across all sources. The SVS 100's switch can then be made using a seamless cut or one of 24 digital switching effects. In the application diagram, Extron's Matrix 50 matrix switcher routes multiple DVD players and Betacam cameras to two S-video video inputs on the SVS 100. The SVS 100 switches its inputs to the S-video output for the DVS 150 scaler. The DVS 150 scales its input up to 1024 x 768 and sends the RGBHV signal to the large-venue projector for display.



EFFECT EXAMPLES



SPECIFICATIONS

Video input (NTSC or PAL)

Connectors/signal type	
4 4-pin mini-DIN female ..	S-video
8 BNC female	NTSC/PAL composite video
Nominal level(s)	Analog — 0.7V to 1V p-p
Minimum/maximum level(s) ..	Analog — 2V p-p with no offset
Impedance	75 ohms or Hi Z

Video throughput

Gain	Unity
Differential phase error	1.5°, 0 to 10 MHz
Differential gain error	1.5%, 0 to 10 MHz

Video processing

Encoder	10 bit digital
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Video output (NTSC or PAL)

Number/signal type	2 composite video, 1 S-video
Connectors/signal type	
1 4-pin mini-DIN female ..	S-video
2 BNC female	composite video
Nominal level	0.7V p-p Y, 0.288V p-p C (burst)
Composite video	0.5V to 1V p-p
Impedance	75 ohms

Sync

Standards	NTSC 3.58 and PAL
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Audio input

Number/signal type	4 stereo, balanced/unbalanced
Connectors	4 3.5mm captive screw terminals, 5 pole
Impedance	Unbalanced 50 k ohms, DC coupled Balanced 25 k ohms, DC coupled
Minimum level	-10dBu for full power out
Maximum level	+19.5dBu, (balanced or unbalanced) @ stated %THD+N
Input gain adjustment	-15dB to +9dB, adjustable per input via RS-232 or front panel
CMRR	>75dB @ 20 Hz to 20 kHz

Audio throughput

Gain	Unbalanced 0dB, balanced +6dB
Frequency response	±0.05dB @ 20 Hz to 20 kHz
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20kHz at rated max. output drive (+19dBu input, +21dBu output, balanced/unbalanced)
S/N	>90dB, output +21dBu, balanced

SPECIFICATIONS (Cont.)

Adjacent input crosstalk	>80dB @ 1 kHz
Stereo channel separation	>80dB @ 1 kHz
CMRR	>75dB @ 20 Hz to 20 kHz

Audio output

Number/signal type	1 stereo, balanced/unbalanced
Connectors	1 3.5 mm captive screw terminal, 5 pole
Maximum output level	+21dBu, balanced/unbalanced
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1dB channel to channel
Drive (Hi-Z)	> +21dBu, balanced or unbalanced at stated %THD+N
Drive (600 ohm)	> +15dBm, balanced or unbalanced at stated %THD+N

Control/remote — switcher

Serial control port	RS-232 or RS-422, 9-pin female D connector
Baud rate and protocol	9600, 8-bit, 1 stop bit, no parity
Program control	Extron's control program for Windows® Extron's Simple Instruction Set™ – SIS™

General

Power	100VAC to 240VAC, 50/60 Hz, 40 watts, internal, auto-switchable
Temperature/humidity	Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing
Rack mount	Yes, with included brackets
Enclosure type	Metal
Enclosure dimensions	1.75" H x 17.5" W x 9.5" D 4.5 cm H x 44.5 cm W x 24.1 cm D
Shipping weight	15 lbs (6.8 kg)
Vibration	NSTA in carton (National Safe Transit Association)
Approvals	UL, CUL, CE, FCC Class A
MTBF	30,000 hours
Warranty	2 years parts and labor
Part number	60-322-01



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